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SEP 29 2004

**OFFICE OF PETITIONS**

Express Mail No.

PTO/SB/17 (10-03)

Approved for use through 07/31/2006. OMB 0651-0032  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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**FEE TRANSMITTAL  
for FY 2004**

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27**TOTAL AMOUNT OF PAYMENT** (\$ ) 1,330.00**Complete if Known**

Application Number	09/721,606
Filing Date	November 22, 2000
First Named Inventor	Gopal P. Avinash
Examiner Name	Nakhjavan, Shervin K
Art Unit	2621
Attorney Docket No.	390086.94677

**METHOD OF PAYMENT (check all that apply)**☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None☒ Deposit Account:Deposit Account Number  
Deposit Account Name

17-0055

Quarles &amp; Brady LLP

The Director is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☒ Credit any overpayments☒ Charge any additional fee(s) or any underpayment of fee(s)☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.**FEE CALCULATION****1. BASIC FILING FEE**

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1001 770	2001 385	Utility filing fee	
1002 340	2002 170	Design filing fee	
1003 530	2003 265	Plant filing fee	
1004 770	2004 385	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	
<b>SUBTOTAL (1)</b>			<b>(\$ ) 0.00</b>

**2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE**

Total Claims	Independent Claims	Multiple Dependent	Extra Claims	Fee from below	Fee Paid
			-20* =	X	0.00
			-3** =	X	0.00

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description
1202 18	2202 9	Claims in excess of 20
1201 86	2201 43	Multiple independent claims in excess of 3
1203 290	2203 145	Multiple dependent claim, if not paid
1204 86	2204 43	** Reissue independent claims over original patent
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent

**SUBTOTAL (2)** (\$ ) 0.00

\*\*or number previously paid, if greater; For Reissues, see above

**FEE CALCULATION (continued)****3. ADDITIONAL FEES**

Large Entity Small Entity

Fee Code (\$)	Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for <i>ex parte</i> reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 420	2252 210	Extension for reply within second month	
1253 950	2253 475	Extension for reply within third month	
1254 1,480	2254 740	Extension for reply within fourth month	
1255 2,010	2255 1,005	Extension for reply within fifth month	
1401 330	2401 165	Notice of Appeal	
1402 330	2402 165	Filing a brief in support of an appeal	
1403 290	2403 145	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,330	2453 665	Petition to revive - unintentional	1330
1501 1,330	2501 665	Utility issue fee (or reissue)	
1502 480	2502 240	Design issue fee	
1503 640	2503 320	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1806 180	1806 180	Submission of Information Disclosure Stmt	
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	
1809 770	2809 385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810 770	2810 385	For each additional invention to be examined (37 CFR 1.129(b))	
1801 770	2801 385	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	

Other fee (specify)

\*Reduced by Basic Filing Fee Paid

**SUBTOTAL (3)** (\$ ) 1,330.00**SUBMITTED BY**

(Complete if applicable)

Name (Print/Type)	Adam J. Forman	Registration No. (Attorney/Agent)	46,707	Telephone	(414) 277-5405
Signature		Date	September 15, 2004		

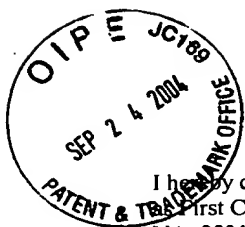
**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.

**SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

5632770

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



#11

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date set forth below as First Class Mail in an envelope addressed to: Mail Stop Petition; Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date of Signature and Deposit: September 15, 2004

*Alan J. Forman*  
Attorney of Record

**RECEIVED**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE **SEP 29 2004**

Applicant(s): Gopal P. Avinash  
Serial No.: 09/721,606  
Filed: November 22, 2000  
For: *Method and Apparatus for Extracting a Left Ventricular Endocardium from MR Cardiac Images*  
Group Art Unit: 2621  
Docket No.: 390086.94677

**OFFICE OF PETITIONS**

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**PETITION FOR REVIVAL OF APPLICATION PURSUANT TO 37 CFR 1.137**

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Mail Stop Petition  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Applicant hereby petitions for revival of the above-referenced application, pursuant to 37 CFR 1.137(b), as being unintentionally abandoned. A Notice of Allowance was issued for this application on March 23, 2004.

The Notice of Allowance for this application noted that corrected drawings were necessary. Applicant unintentionally failed to file formal drawings when the Issue Fee was paid on June 22, 2004. As a result, Applicant received a Notice of Abandonment on August 9, 2004.

Enclosed herewith is 1) a copy of the Notice of Allowance indicating that corrected drawings are needed, 2) a copy of the June 22, 2004 Issue Fee Transmittal, and 3) a copy of the August 9, 2004 Notice of Abandonment. Also enclosed is 1) a clean set of formal drawing sheets 1-9 bearing Figs. 1-15, 2) a set of the formal drawing sheets identified by "Replacement Sheet" in the upper margin, and 3) a Fee Transmittal authorizing the fee for this Petition to be charged to Deposit Account No. 17-0055.

The entire delay in filing the required reply from the due date for the reply until the filing of the present petition was unintentional pursuant to 37 CFR 1.137 (b)(3).

09/28/2004 WADELRI 00000091 170055 09721606

01 FC:1453 1330.00 DA

Applicant therefore respectfully requests that the present application be revived, and submission of the formal drawings noted. Applicant would appreciate a telephone interview if such would expedite the processing of this Petition.

Applicant hereby authorizes the Commissioner to deduct any other fees resulting from this or any other communication from Deposit Account No. 17-0055.

Respectfully submitted,

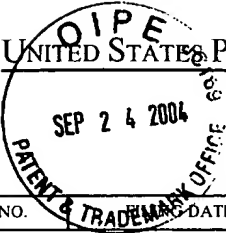
Gopal P. Avinash

By: Adam J. Forman  
Adam J. Forman  
Attorney for Applicant  
Quarles & Brady  
411 E. Wisconsin Avenue, Suite 2040  
Milwaukee WI 53202-4497  
(414) 277-5405  
Reg. No. 46,707

Dated: September 15, 2004



UNITED STATES PATENT AND TRADEMARK OFFICE



UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/721,606	11/22/2000	Gopal B. Avinash	390086.94677	2921

7590 08/09/2004  
Adam J. Forman, Esq.  
Quarles & Brady LLP  
Suite 2040  
411 E. Wisconsin Avenue  
Milwaukee, WI 53202-4497

EXAMINER

NAKHJAVAN, SHERVIN K

ART UNIT	PAPER NUMBER
----------	--------------

2621

DATE MAILED: 08/09/2004

10

Please find below and/or attached an Office communication concerning this application or proceeding.

8-16-04



UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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09/72/606



EXAMINER
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ART UNIT	PAPER NUMBER
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10

DATE MAILED:

NOTICE OF ABANDONMENT

ABANDONMENT  
ON 09/24/04  
BY 09/24/04  
300-8100

This application is abandoned in view of:

- ☐ Applicant's failure to timely file a proper reply to the Office letter mailed on \_\_\_\_\_
- ☐ A reply (with Certificate of Mailing or Transmission of \_\_\_\_\_) was received on \_\_\_\_\_ which is after the expiration of the period for reply (including a total extension of time of \_\_\_\_\_ month(s)) which expired on \_\_\_\_\_.
- ☐ A proposed reply was received on \_\_\_\_\_, but it does not constitute a proper reply under 37 CFR 1.113 to the final rejection.  
(A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114).
- ☐ A reply was received on \_\_\_\_\_, but it does not constitute a proper reply, or a *bona fide* attempt at a proper reply, to the non-final rejection. See 37 CFR 1.85(a) and 1.111. (See explanation in the last box below).
- ☐ No reply has been received.
- ☐ Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).
- ☐ The issue fee and publication fee, if applicable, was received on \_\_\_\_\_ (with a Certificate of Mailing or Transmission dated \_\_\_\_\_), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance (PTOL-85)(or Notice of Publication Fee Due).
- ☐ The submitted fee of \$ \_\_\_\_\_ is insufficient. A balance of \$ \_\_\_\_\_ is due.  
The issue fee by 37 CFR 1.18 is \$ \_\_\_\_\_. The publication fee, if required, by 37 CFR 1.18(d) is \$ \_\_\_\_\_.
- ☐ The issue fee and publication fee, if applicable, have not been received.
- ☒ Applicant's failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTOL-37).
- ☐ Proposed corrected drawings were received on \_\_\_\_\_ (with a Certificate of Mailing or Transmission dated \_\_\_\_\_), which is after the expiration of the period for reply.
- ☒ No corrected drawings have been received.
- ☐ The letter of express abandonment which is signed by the attorney or agent of record, the assignee of the entire interest, or all the applicants.
- ☐ The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34(a)) upon filing of a continuing application.
- ☐ The decision by the Board of Patent Appeals and Interferences rendered on \_\_\_\_\_ and because the period for seeking court review of the decision has expired and there are no allowed claims.
- ☐ The reason(s) below: \_\_\_\_\_

Petitions to revive under 37 CFR 1.137(a) or (b), or requests to withdraw the holding of abandonment under 37 CFR 1.181, should be promptly filed to minimize any negative effects on patent term.



## Attachment to Notice of Abandonment

For questions concerning the notice contact

Office of Patent Publication

Image Assistance Center: 888-786-0101.

Information is also available on the USPTO Internet web site:

<http://www.uspto.gov/web/patents/pubs/abandonnotice.html>

### Respond to the Notice of Abandonment by one of the following:

1. **Petition To Withdraw Holding of Abandonment (See MPEP 711.03(c) I and 37 CFR § 1.181) No fee required**

Where an applicant contends that the application is not in fact abandoned (e.g., a reply was in fact filed), a petition under 37 CFR § 1.181(a) requesting withdrawal of the holding of abandonment is the appropriate course of action. Any petition under 37 CFR § 1.181 to withdraw the holding of abandonment not filed within 2 months of the mail date of a Notice of Abandonment may be dismissed as untimely under 37 CFR § 1.181(f). In order for a petition to be granted, the evidence must be sufficient according to 37 CFR § 1.8(b) Certificate of Mailing, 37 CFR § 1.10 "Express Mail" mailing or MPEP 503 Postcard Receipt as Prima Facie Evidence. The petition should be addressed as follows:

By mail: Mail Stop: Issue Fee, Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450  
By facsimile: 703-872-9306

2. **Petition To Withdraw Holding Of Abandonment Based On Failure To Receive Office Action (MPEP 711.03(c) II and 37 CFR § 1.181). No fee required**

Where an applicant contends that the original Notice of Allowance and Fee(s) Due was never received, if adequately supported, the Office may grant the petition and remail the Office action. The showing required establishing non-receipt of an Office communication must include a statement from the practitioner stating that the Office communication was not received and attesting to the fact that a search of the file jacket and docket records indicates that the Office communication was not received. A copy of the docket record where the nonreceived Office would have been entered had it been received and docketed must be attached to and referenced in practitioner's statement.

Petition should be addressed to the Technology Center handling the application as follows:

By mail: Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450  
By facsimile: 703-872-9306

3. **Petition To Revive An Abandoned Application (See MPEP 711.03(c) III)**

Where there is no dispute as to whether an application is abandoned (e.g., the applicant's contentions merely involve the cause of abandonment) a petition under 37 CFR § 1.137 (a) or (b) (accompanied by the appropriate petition fee) is necessary to revive the abandoned application. The text of these rules is available on the USPTO Internet Web site. Forms for these petitions, "Petition For Revival Of An Application For Patent Abandoned Unavoidably Under 37 CFR § 1.137(a)," PTO/SB/61, and "Petition For Revival Of An Application For Patent Abandoned Unintentionally Under 37 CFR 1.137(b)," PTO/SB/64, are available in the forms section of the USPTO website: <http://www.uspto.gov>.

Petitions under 37 CFR § 1.137 should be addressed to the Office of Petitions as follows:

By mail: Mail Stop Petition, Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450  
By facsimile: 703-872-9306

Note: Abandonment takes place by operation of law for failure to reply to an Office action or timely pay the issue fee, not by operation of the mailing of a Notice of Abandonment

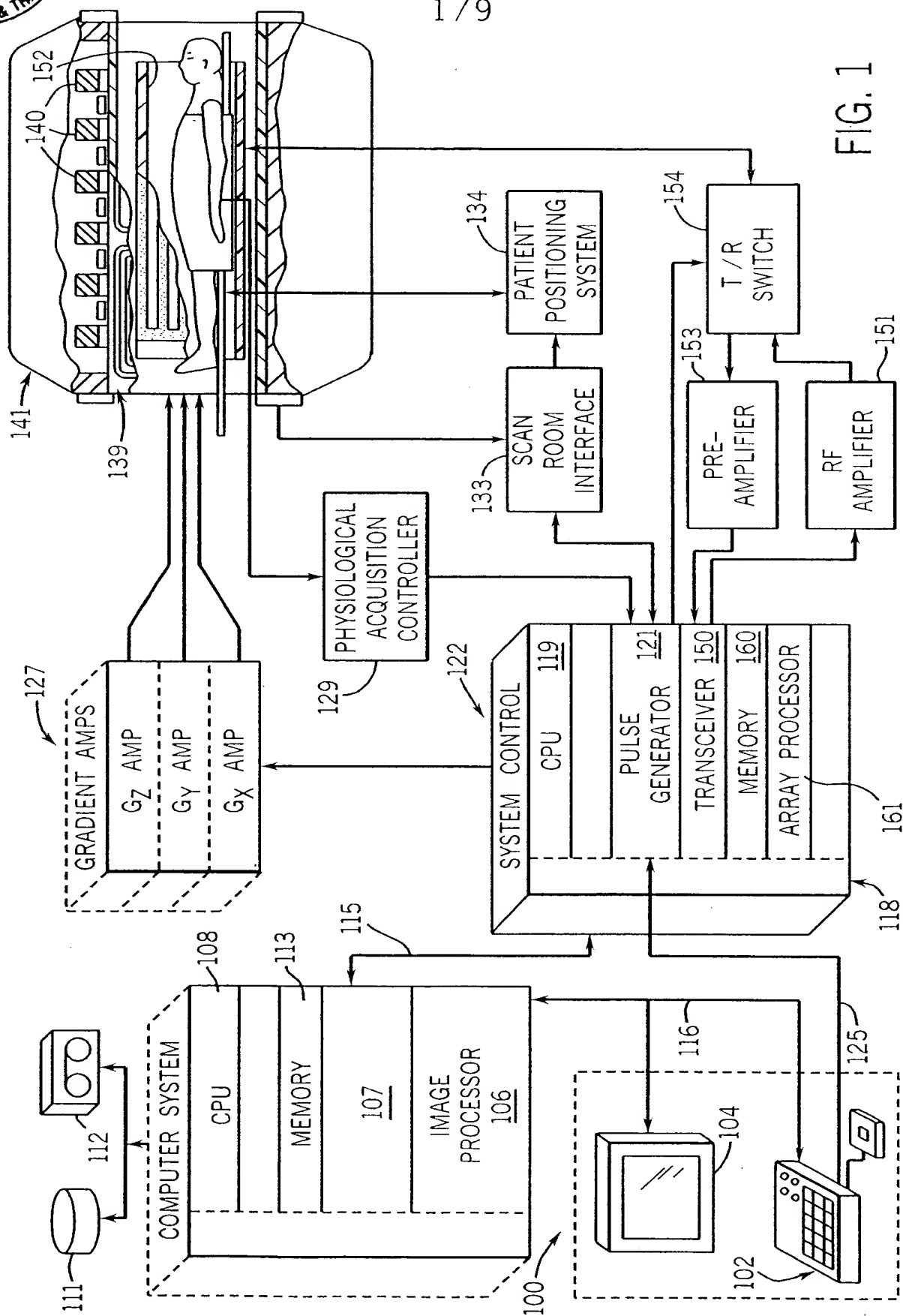
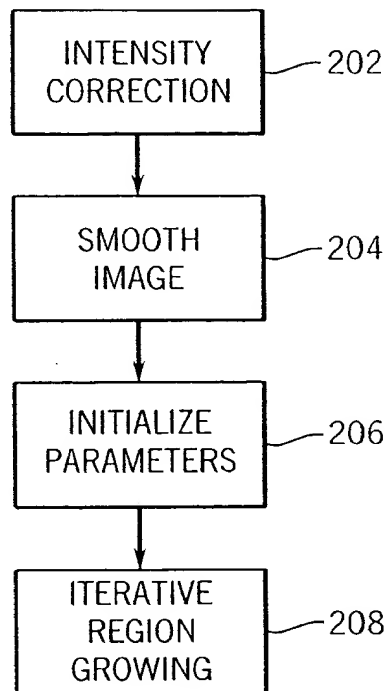


FIG. 1

ENDOCARDIAL  
SEGMENTATION  
SEQUENCE

FIG. 2



SMOOTH  
IMAGE

204

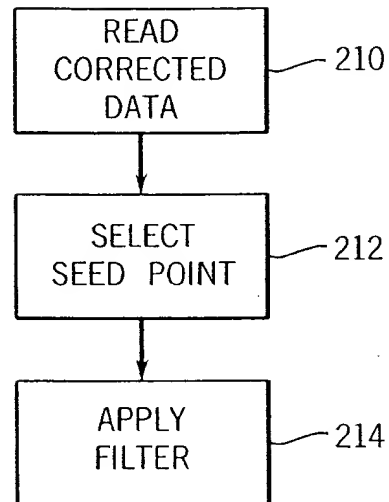
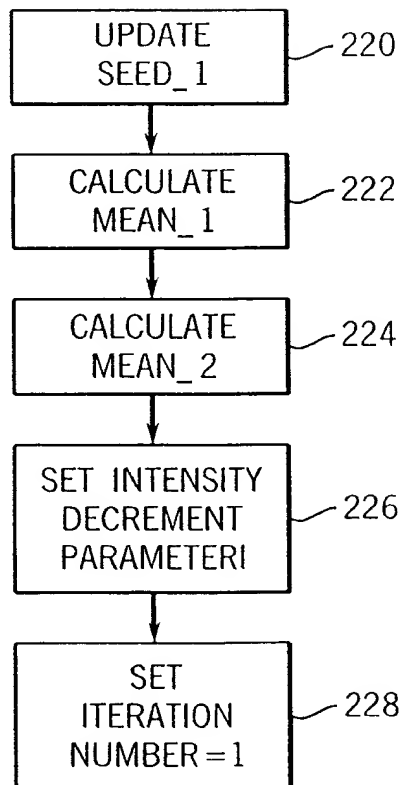


FIG. 3

INITIALIZE  
PARAMETERS

206

FIG. 4





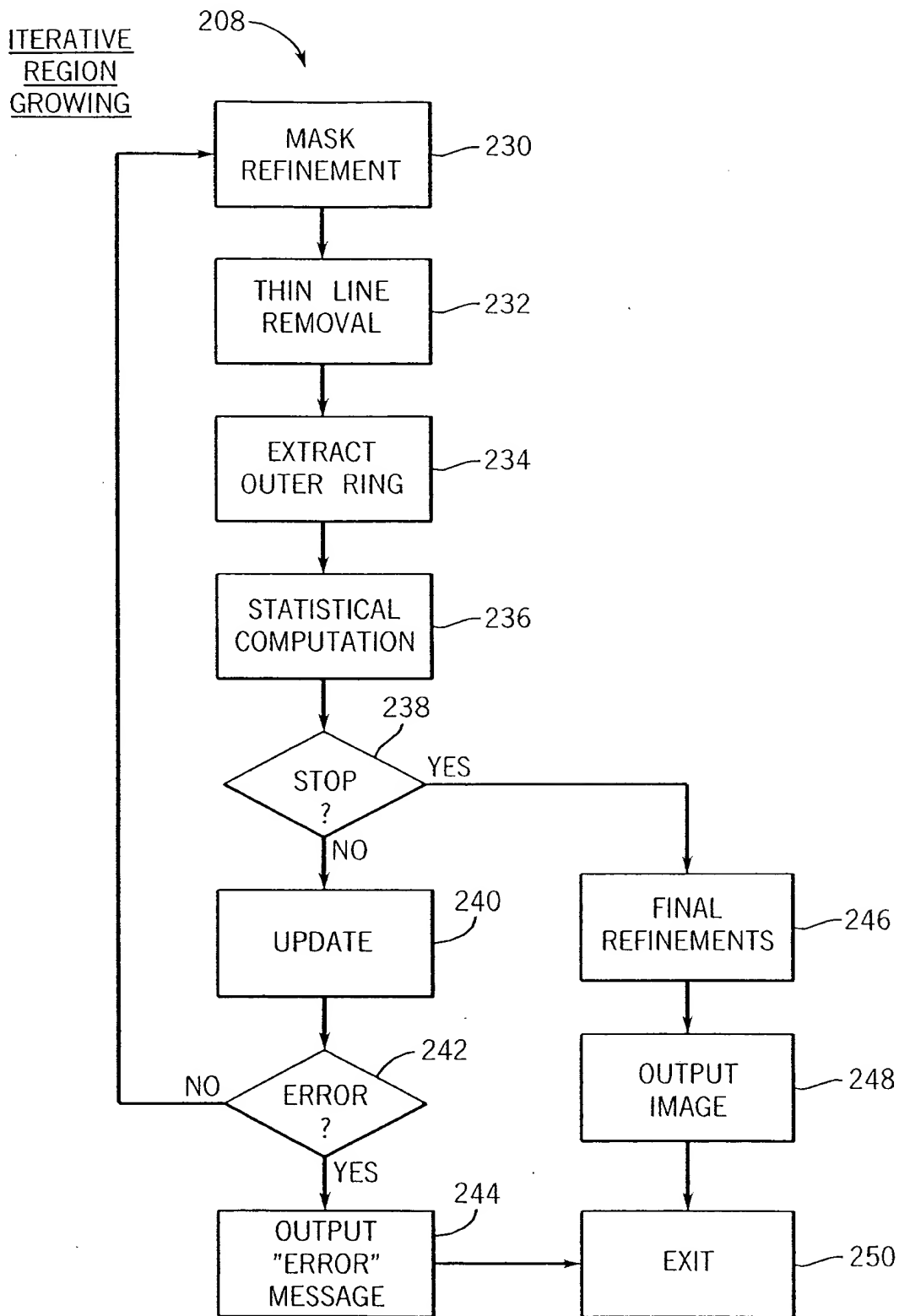
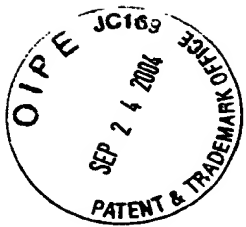


FIG. 5

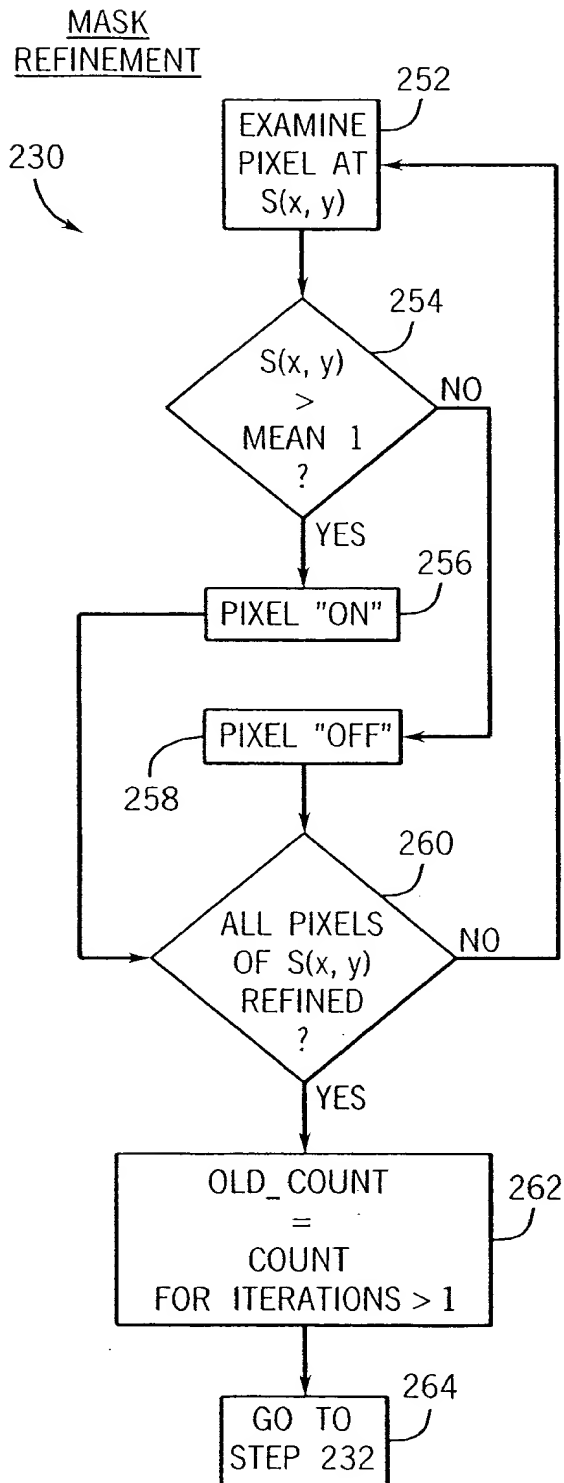


FIG. 6

OIP JC189  
SEP 24 2004  
REMARKS OFFICE

Replacement Sheet  
5 / 9

218

216

1 / 25	1 / 25	1 / 25	1 / 25	1 / 25
1 / 25	1 / 25	1 / 25	1 / 25	1 / 25
1 / 25	1 / 25	1 / 25	1 / 25	1 / 25
1 / 25	1 / 25	1 / 25	1 / 25	1 / 25
1 / 25	1 / 25	1 / 25	1 / 25	1 / 25

FIG. 7

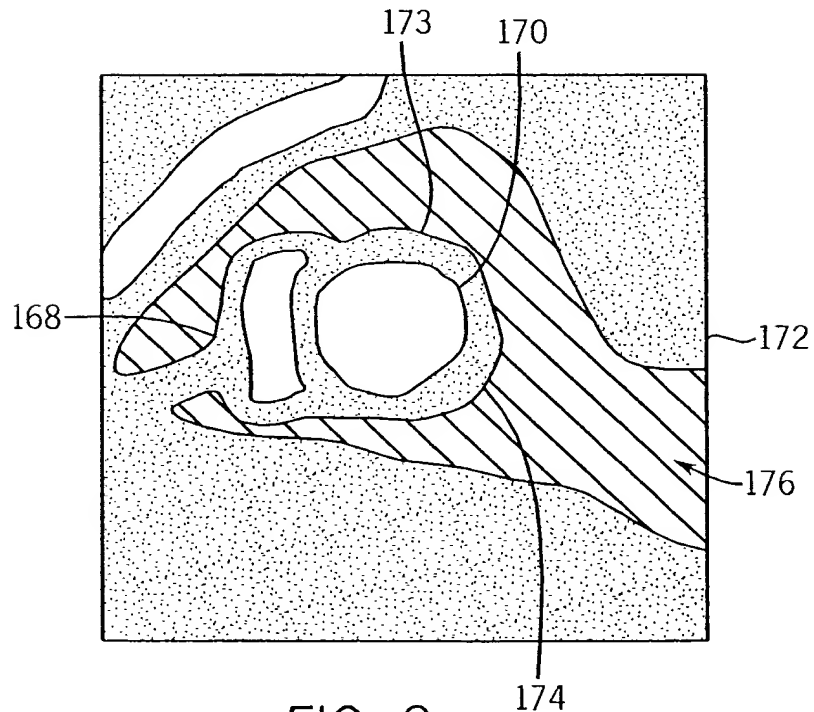


FIG. 8

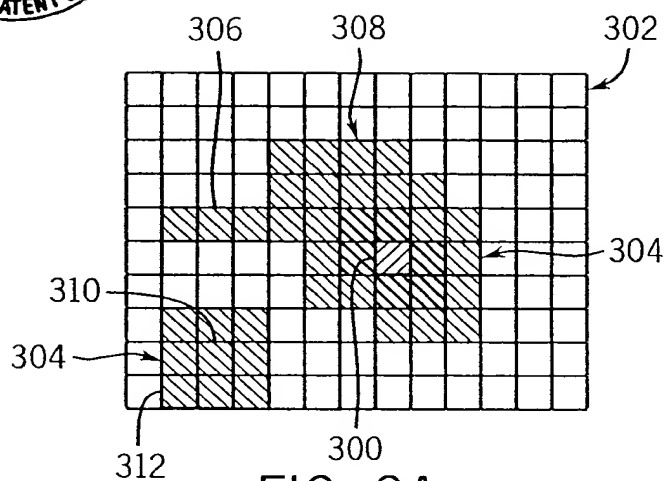
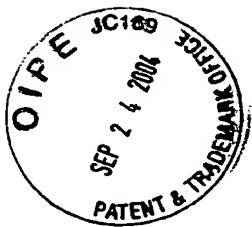


FIG. 9A

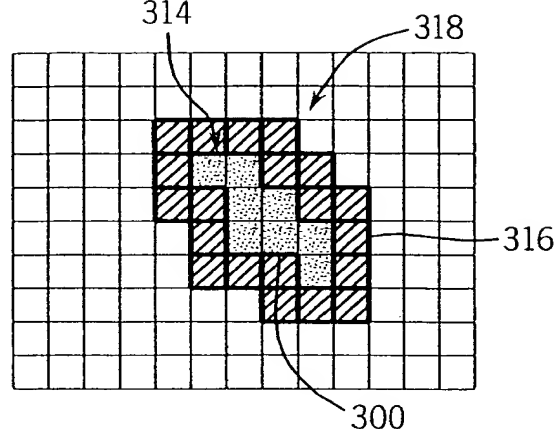


FIG. 9B

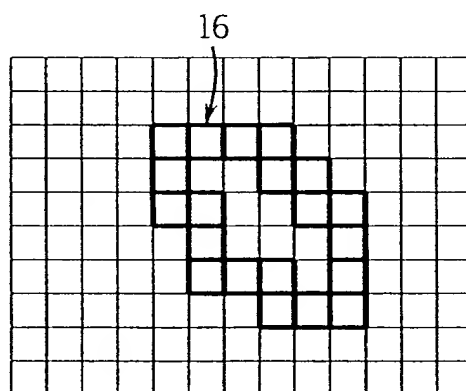


FIG. 9C

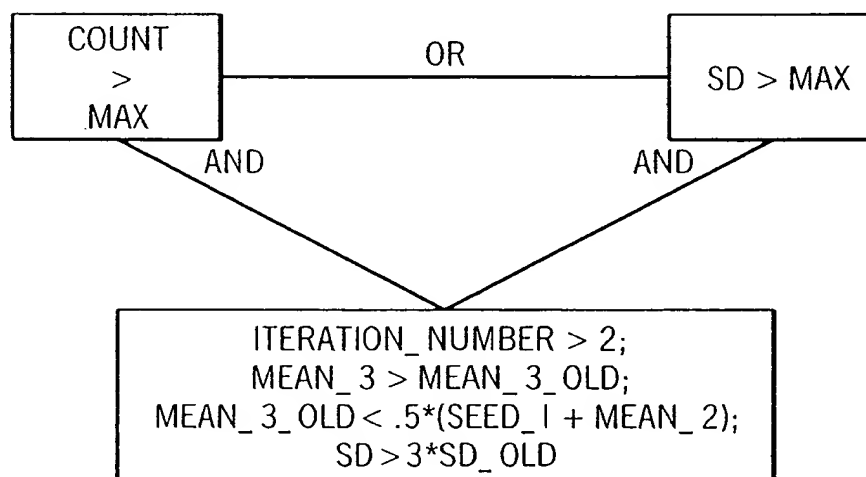
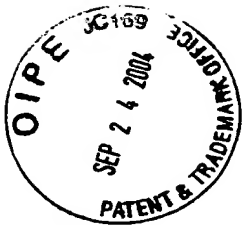


FIG. 11



THIN LINE  
REMOVAL

232

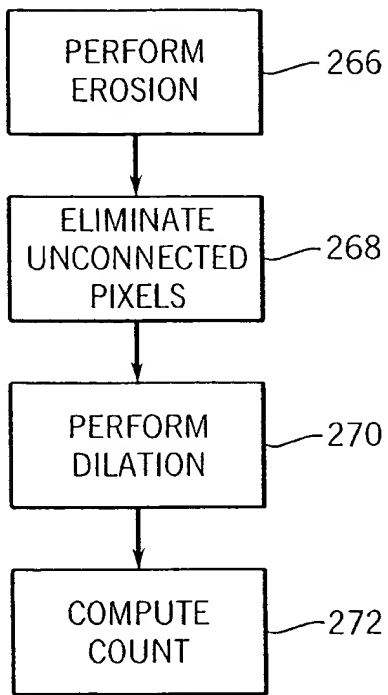


FIG. 10

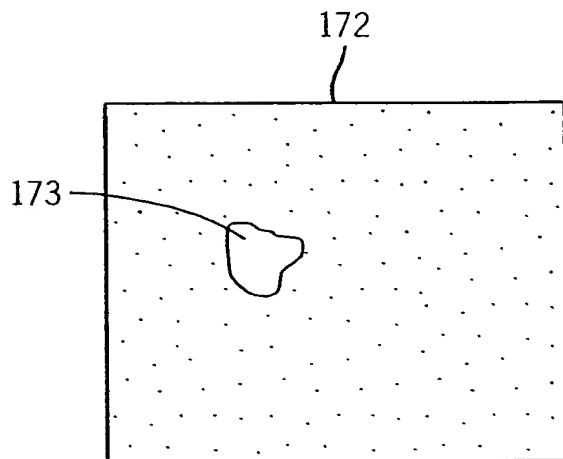
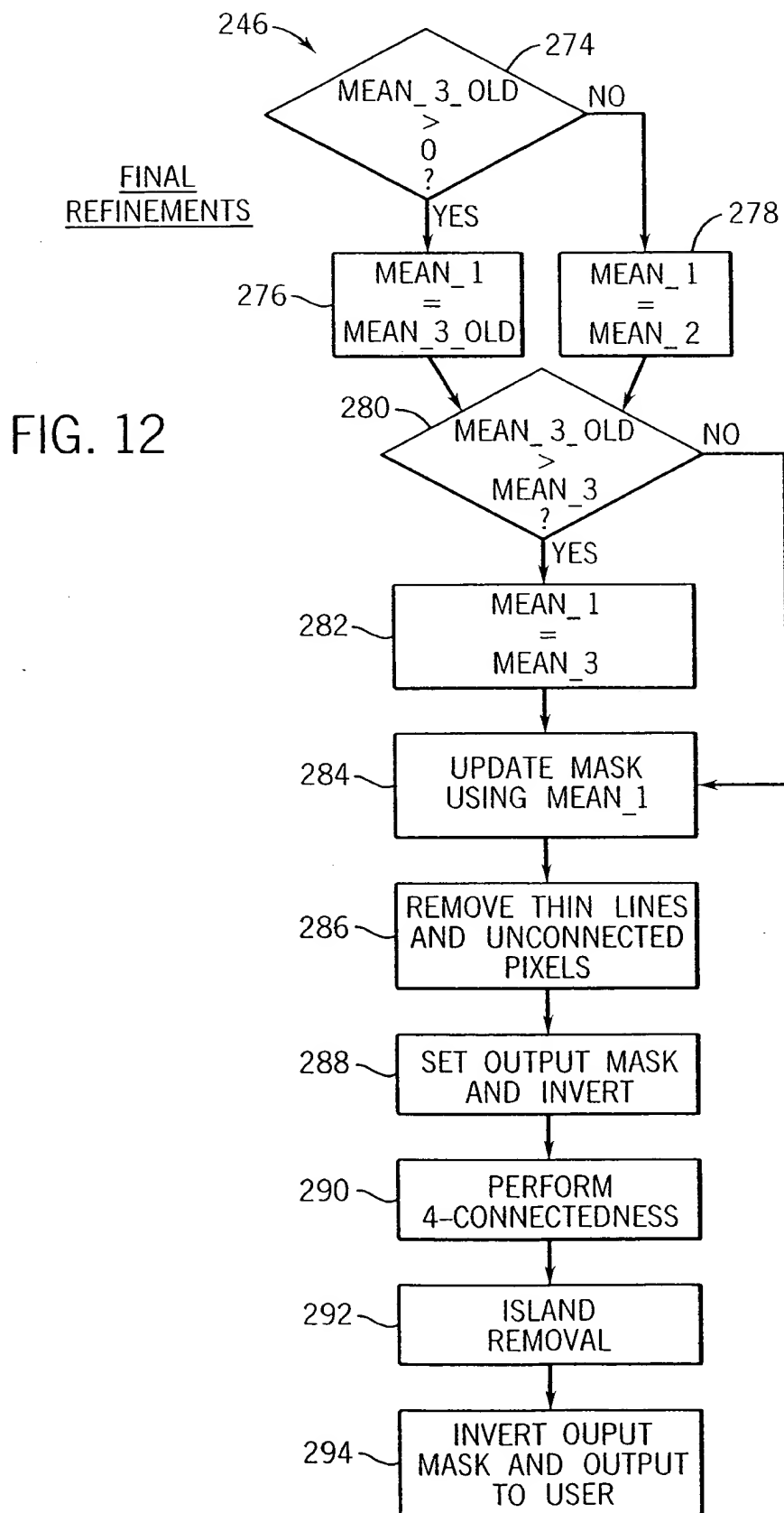


FIG. 15





ITERATION	COUNT	MEAN1	MEAN2	MEAN3	SD
2	28	150.09	72.48	0	0
3	104	142.19	72.48	146.48	2.48
4	147	134.3	72.48	137.76	2.25
5	181	126.4	72.48	130.44	2.26
6	210	118.5	72.48	122.9	2.2
7	252	110.59	72.48	114.95	3.09
8	287	102.69	72.48	105.7	2.6
9	333	94.8	72.48	97.65	2.66
10	384	86.9	72.48	89.27	2.51
11	439	79.0	72.48	82.05	1.86
12	549	71.09	72.48	74.04	2.28
13	6956	63.19	72.48	88.41	16.88

FIG. 13

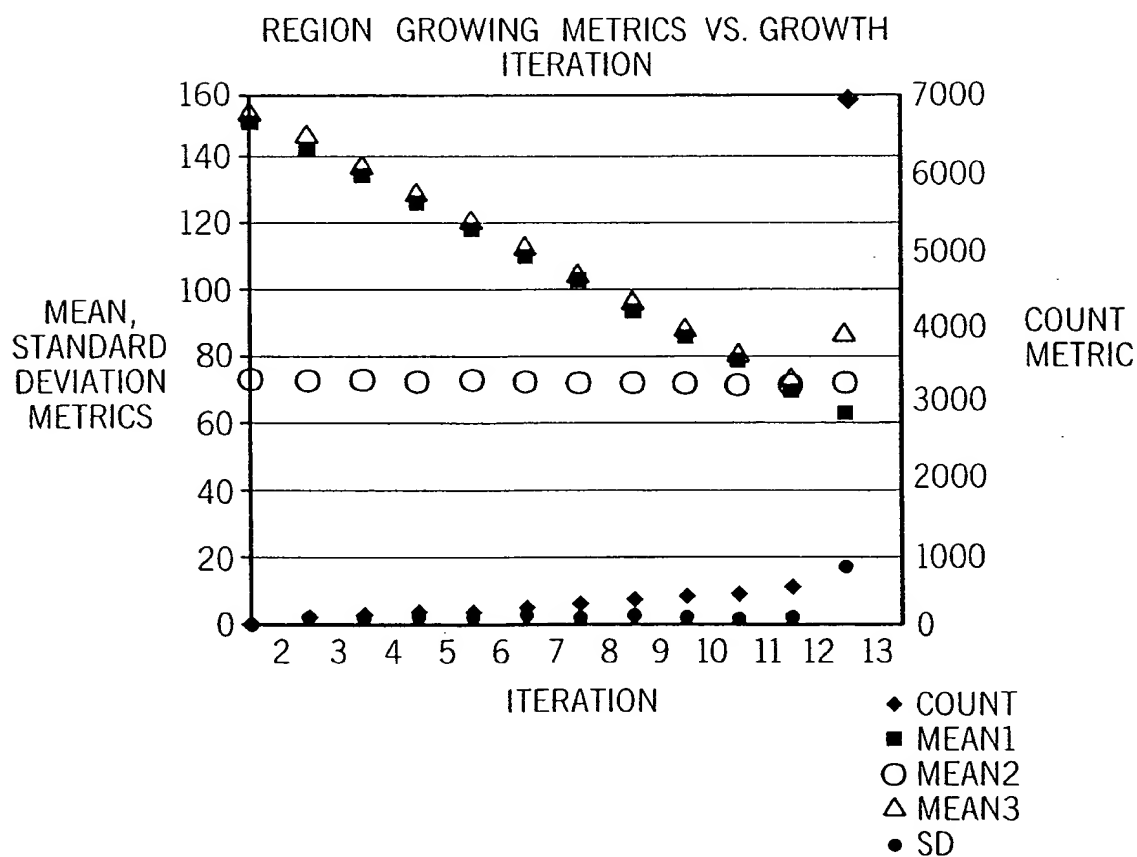


FIG. 14

PA B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail**

**Mail Stop ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
(703) 746-4000**

or **Fax**

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 4 should be completed where appropriate. For further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless otherwise directed below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Legibly mark-up with any corrections or use Block 1)

7590

03/23/2004

Adam J. Forman, Esq.  
Quarles & Brady LLP  
Suite 2040  
411 E. Wisconsin Avenue  
Milwaukee, WI 53202-4497

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

**Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO, on the date indicated below.

Adam J. Forman	(Depositor's name)
<i>Adam J. Forman</i>	(Signature)
6/22/2004	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/721,606	11/22/2000	Gopal B. Avinash	390086.94677	2921

TITLE OF INVENTION: METHOD AND APPARATUS FOR EXTRACTING A LEFT VENTRICULAR ENDOCARDIUM FROM MR CARDIAC IMAGES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1330	\$0	\$1330	06/23/2004

EXAMINER	ART UNIT	CLASS-SUBCLASS
NAKHJAVAN, SHERVIN K	2621	382-128000

Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1. Quarles & Brady LLP

2. \_\_\_\_\_

3. \_\_\_\_\_

ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the USPTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

GE MEDICAL SYSTEMS GROUP, LLC

WAUKESHA, WISCONSIN

lease check the appropriate assignee category or categories (will not be printed on the patent); ☐ individual ☒ corporation or other private group entity ☐ government

1. The following fee(s) are enclosed:

- ☐ Issue Fee
- ☒ Publication Fee
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s):

- ☐ A check in the amount of the fee(s) is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☒ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number 17-0035 (enclose an extra copy of this form).

Director for Patents is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

Authorized Signature) <i>Adam J. Forman</i>	Reg. No. 46,707	(Date) 6/22/2004
NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.		
This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Alexandria, Virginia 22313-1450.		
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## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
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www.uspto.gov



03/23/2004

Adam J. Forman, Esq.  
Quarles & Brady LLP  
Suite 2040  
411 E. Wisconsin Avenue  
Milwaukee, WI 53202-4497

## NOTICE OF ALLOWANCE AND FEE(S) DUE

EXAMINER

NAKHJAVAN, SHERVIN K

ART UNIT

PAPER NUMBER

2621

DATE MAILED: 03/23/2004

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/721,606	11/22/2000	Gopal B. Avinash	390086.94677	2921

TITLE OF INVENTION: METHOD AND APPARATUS FOR EXTRACTING A LEFT VENTRICULAR ENDOCARDIUM FROM MR CARDIAC IMAGES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1330	\$0	\$1330	06/23/2004

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

## HOW TO REPLY TO THIS NOTICE:

## I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status is changed, pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above and notify the United States Patent and Trademark Office of the change in status, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check the box below and enclose the PUBLICATION FEE and 1/2 the ISSUE FEE shown above.

☐ Applicant claims SMALL ENTITY status.  
See 37 CFR 1.27.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

Intellectual Property Dept.

RECEIVED: 3-26-04

RESPONSE DUE: 6-23-04

# PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail

Mail Stop ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
or Fax (703) 746-4000

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 4 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below. Indicate otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Legibly mark-up with any corrections or use Block 1)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

7590

03/23/2004

Adam J. Forman, Esq.  
Quarles & Brady LLP  
Suite 2040  
411 E. Wisconsin Avenue  
Milwaukee, WI 53202-4497

## Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/721,606	11/22/2000	Gopal B. Avinash	390086.94677	2921

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APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1330	\$0	\$1330	06/23/2004

EXAMINER	ART UNIT	CLASS-SUBCLASS
NAKHJAVAN, SHERVIN K	2621	382-128000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1	_____
2	_____
3	_____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the USPTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent); ☐ individual ☐ corporation or other private group entity ☐ government

4a. The following fee(s) are enclosed:

- ☐ Issue Fee
- ☐ Publication Fee
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s):

- ☐ A check in the amount of the fee(s) is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

Director for Patents is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

(Authorized Signature)

(Date)

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

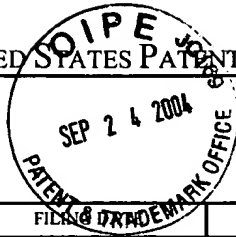
This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Alexandria, Virginia 22313-1450.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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03/23/2004

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Suite 2040  
411 E. Wisconsin Avenue  
Milwaukee, WI 53202-4497

EXAMINER

NAKHJAVAN, SHERVIN K

ART UNIT

PAPER NUMBER

2621

DATE MAILED: 03/23/2004

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**  
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 565 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 565 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) system (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (703) 305-1383. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

**Notice of Allowability**



Application No.

09/721,606

Examiner

Shervin Nakhjavan

Applicant(s)

AVINASH ET AL.

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment received on 2-3-04.
2. ☒ The allowed claim(s) is/are 1-19.
3. ☐ The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☒ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

Shervin Nakhjavan  
Examiner  
Art Unit: 2621



***Allowable Subject Matter***

1. The following is an examiner's statement of reasons for allowance: claims 1-19 are allowed because, the prior art of record specifically Curwen et al. (US 5,669,382) does not teach activating pixels on said reconstructed image having an intensity value greater than an intensity of said expansion boundary during a previous iteration and activating pixel clusters within said expansion boundary that are smaller than a predetermined threshold of claims 1 and 11 combined with other features and elements of the claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Contact information***

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shervin Nakhjavan whose telephone number is (703) 306-5916. The examiner can normally be reached on Monday through Friday from 8:00 am to 5:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau, can be reached at (703) 305-4706.

**Any response to this action should be mailed to:**

Assistant Commissioner for Patents  
Washington, DC 20231

**Or faxed to:**

(703) 872-9306 for *formal* communications, please mark "EXPEDITED PROCEDURE"

or:


for *informal* or *draft* communications; please label "PROPOSED" or "DRAFT".

Art Unit: 2621

**Hand delivered responses** should be brought to Crystal Park 2, 2121 Crystal drive, Arlington, VA, sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Tech center 2700 customer service office **(703) 306-0377**.

Shervin Nakhjavan *S.N*  
Patent Examiner  
Group Art Unit 2621  
March 18, 2004.

  
**ANDREW W. JOHNS**  
**PRIMARY EXAMINER**